

The Central Wisconsin(Marshfield) Healthy Lifestyles Coalition: a Community's Unique Response to a Health Crisis

William L. Washington, MD, MHA
Representing the Coalition
8/28/2002

Reasons for this Presentation

- We are experiencing some worrisome disease trends
- The diseases
 - ◆ Are preventable
 - ◆ Involve ~25% of health care costs
- Causes are rooted in culture and lifestyle
- Prevention can be accomplished only by the community

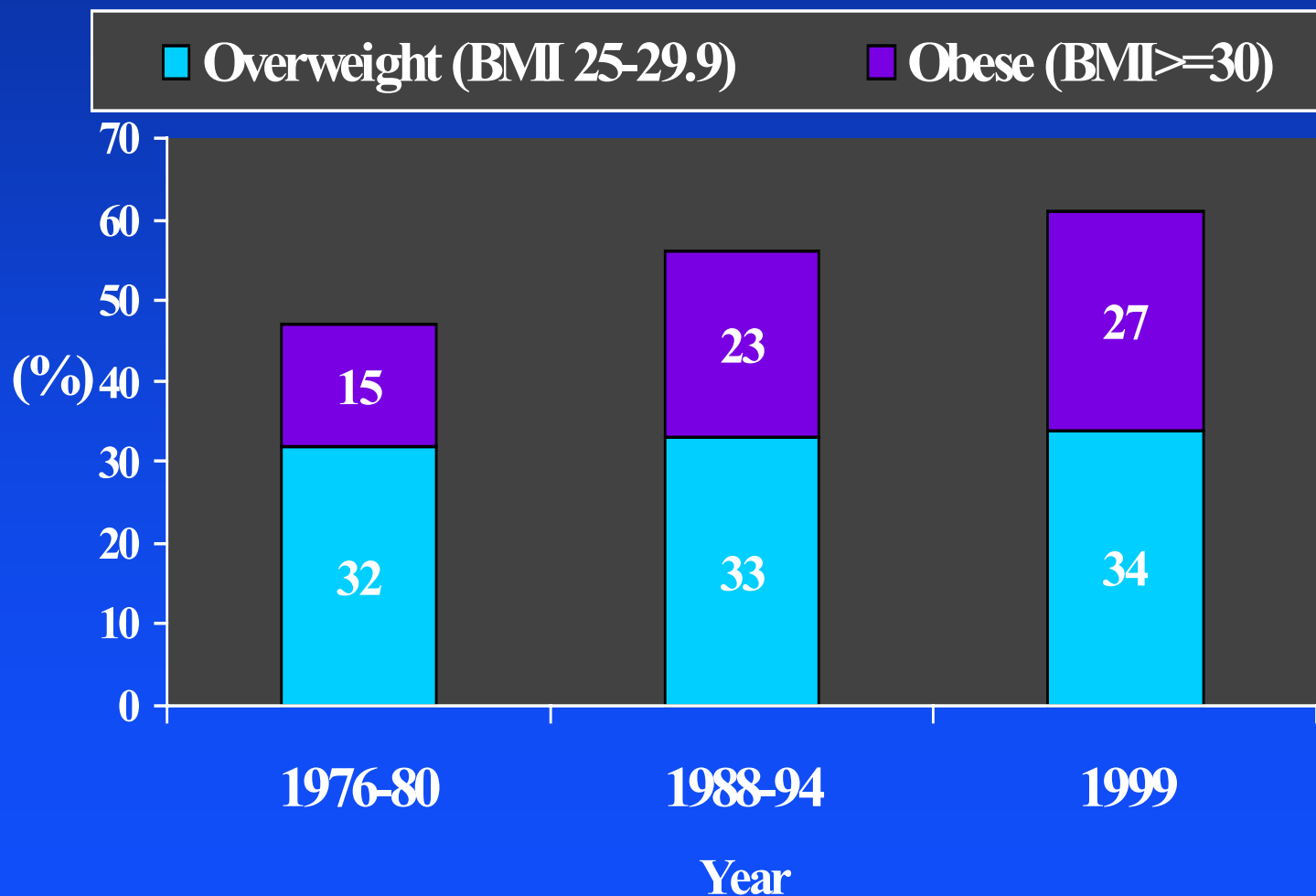
Root Causes

Epidemic of Obesity

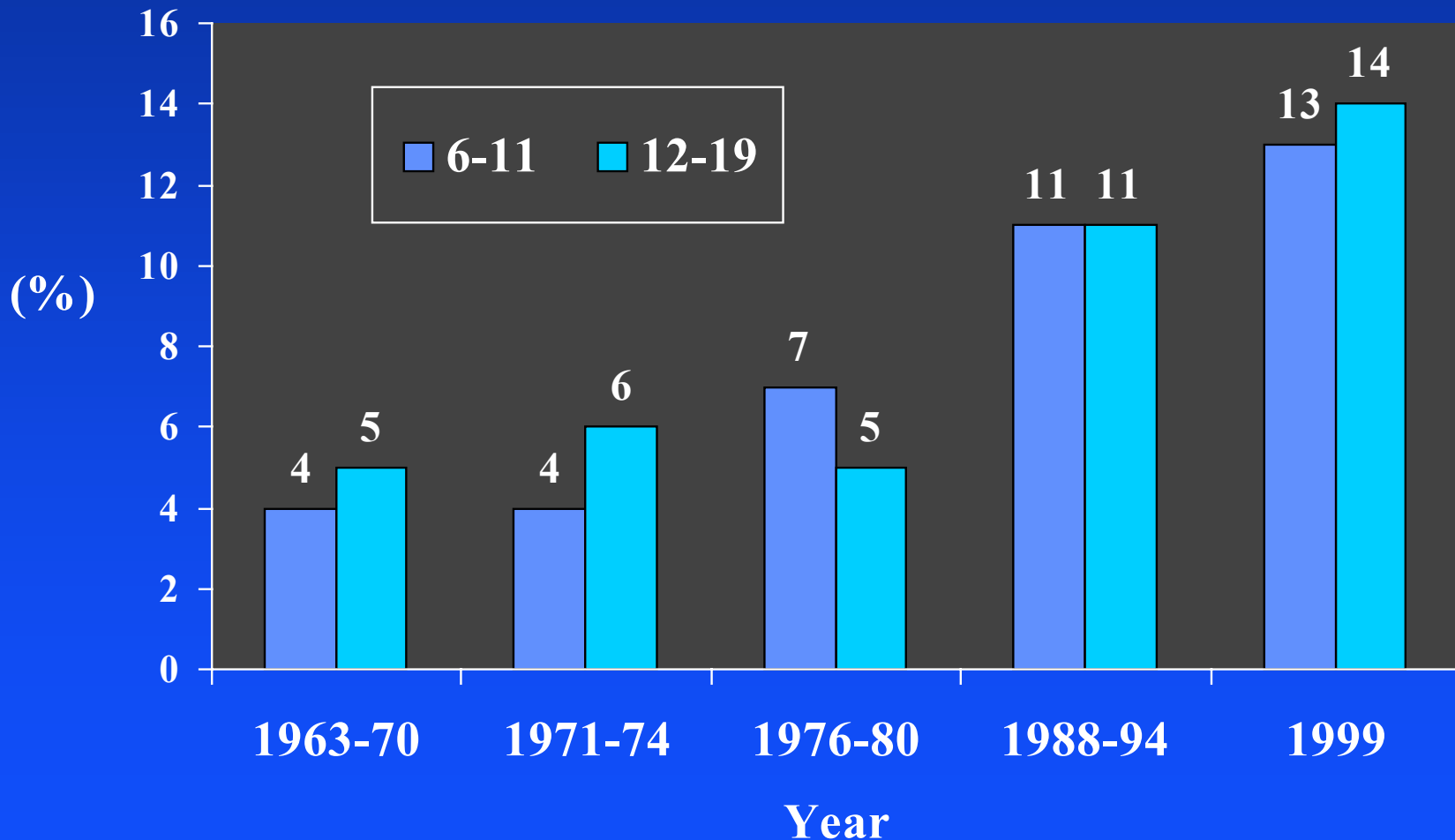
- Learned behaviors
 - High fat and Calorie dense diets
 - increased energy in
 - Decline in Physical Activity Levels
 - less energy burned
- Genetic component

Trends in Obesity in the US:

Age-adjusted Prevalence of Overweight and Obesity Among US Adults Age 20-74 Years (NHANES studies)



Prevalence of Overweight Among Children and Adolescents *

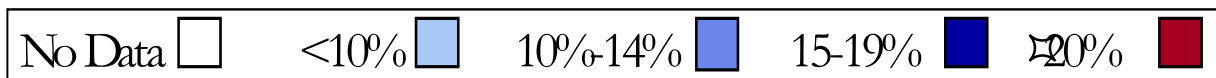
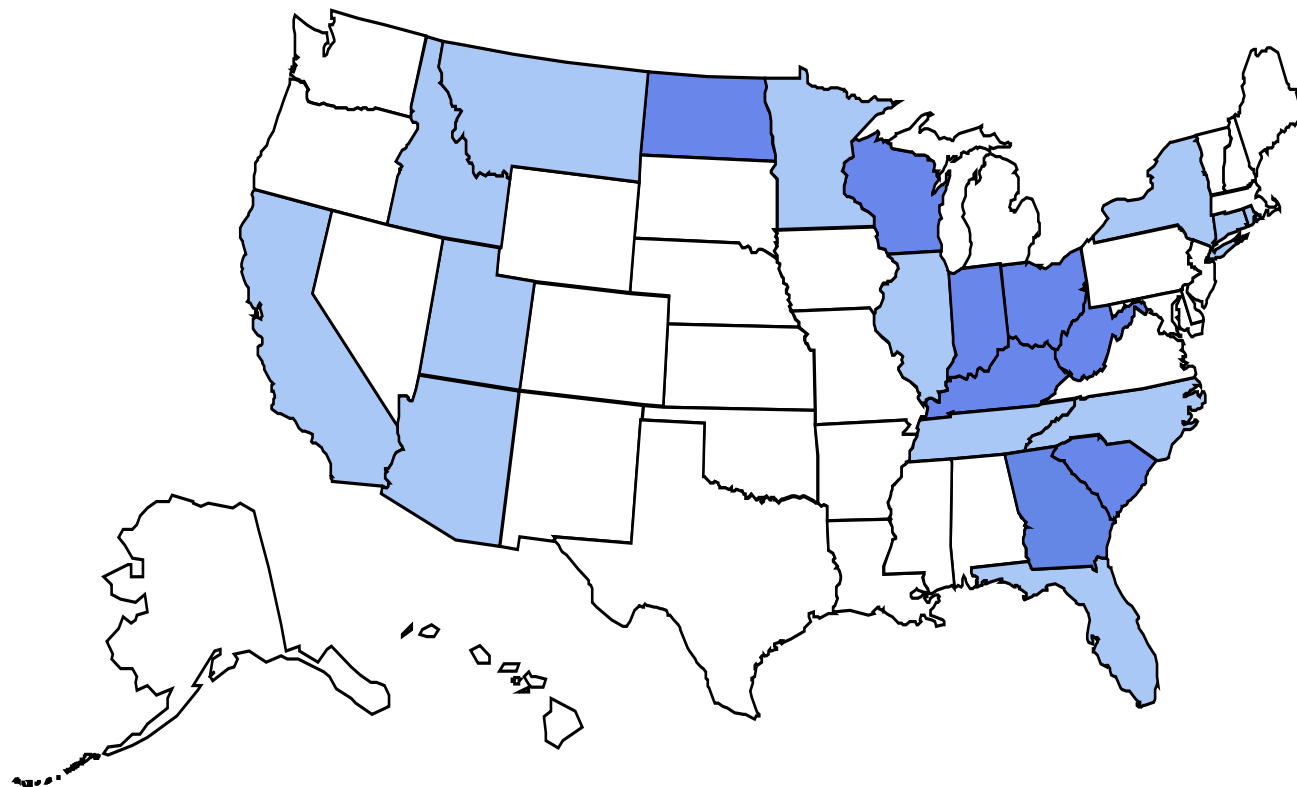


* from NHANES studies

Obesity Trends* Among U.S. Adults

BRFSS, 1985

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5'4" woman)

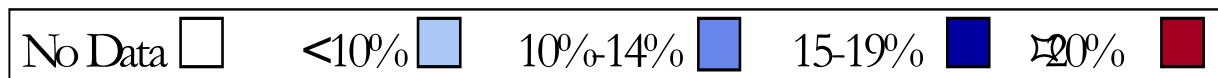
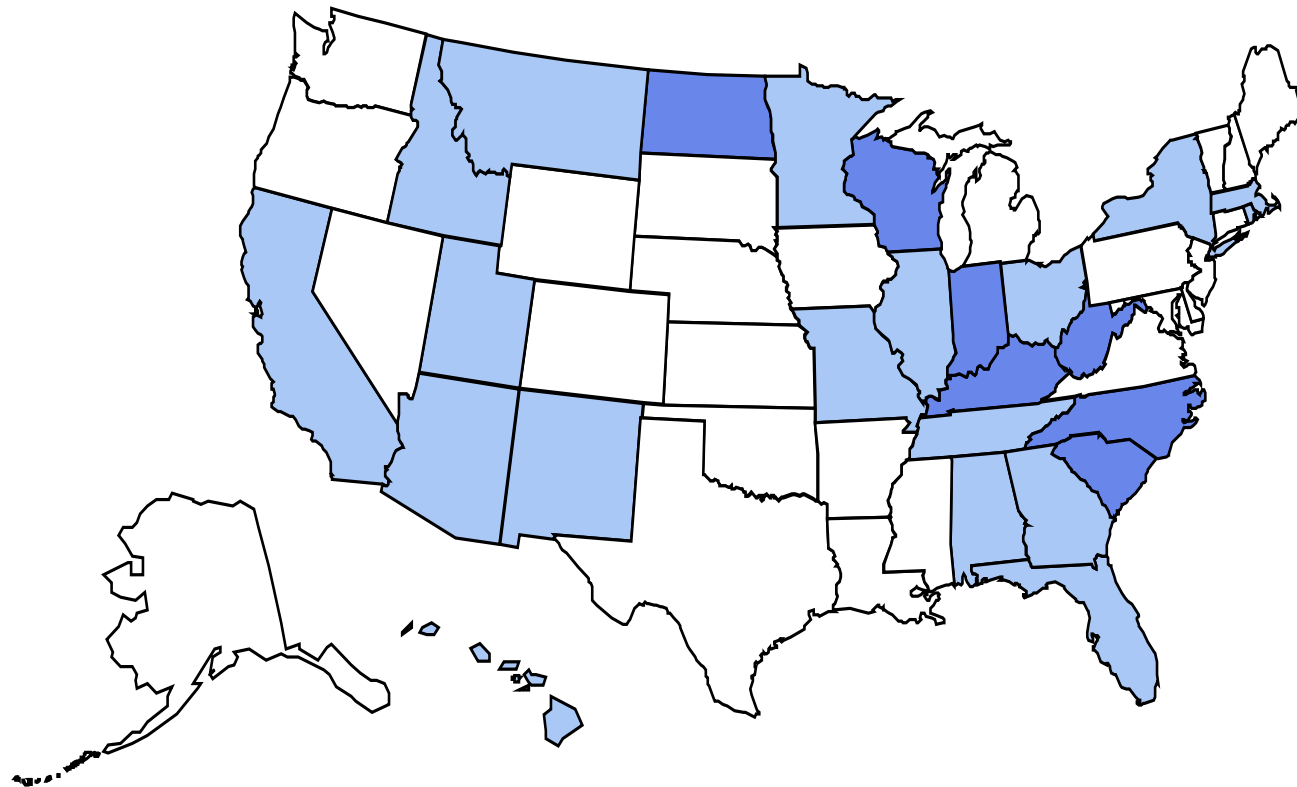


Source: Mokdad AH.

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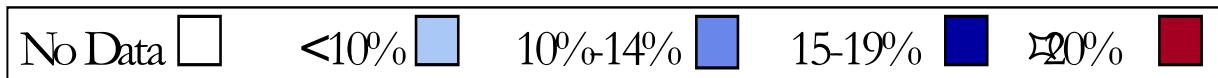
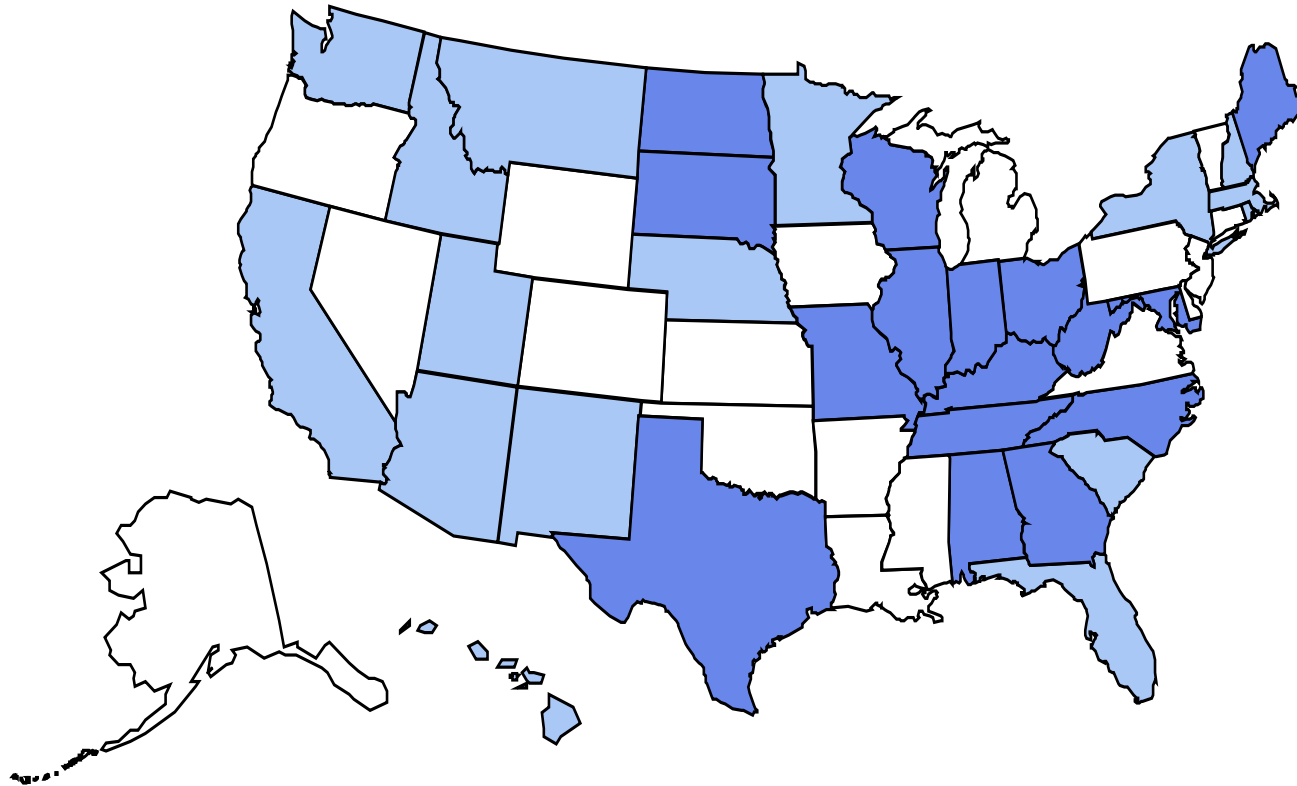
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BREFFS, 1987

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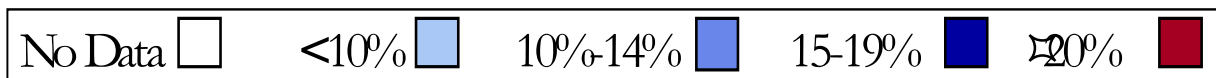
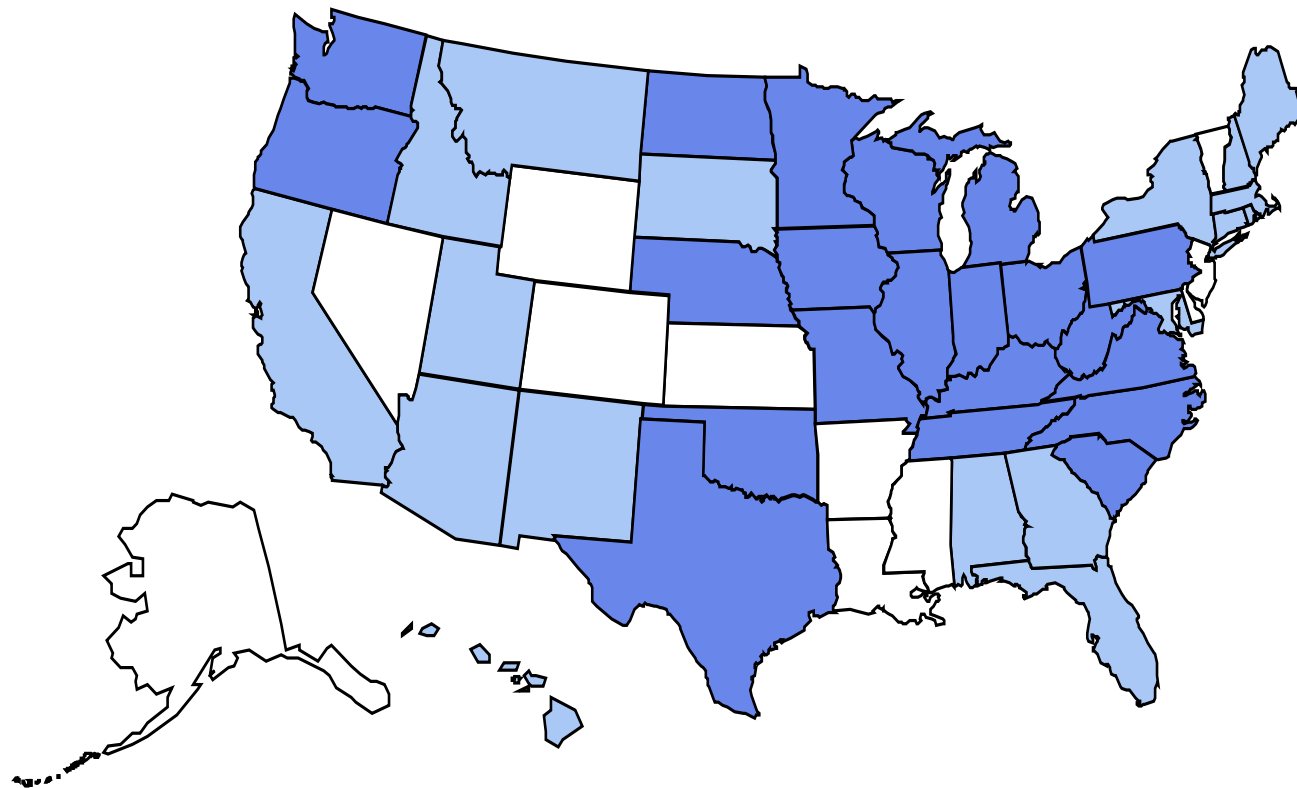
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BRFSS, 1989

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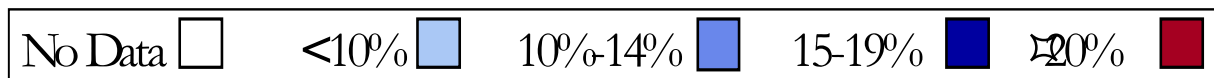
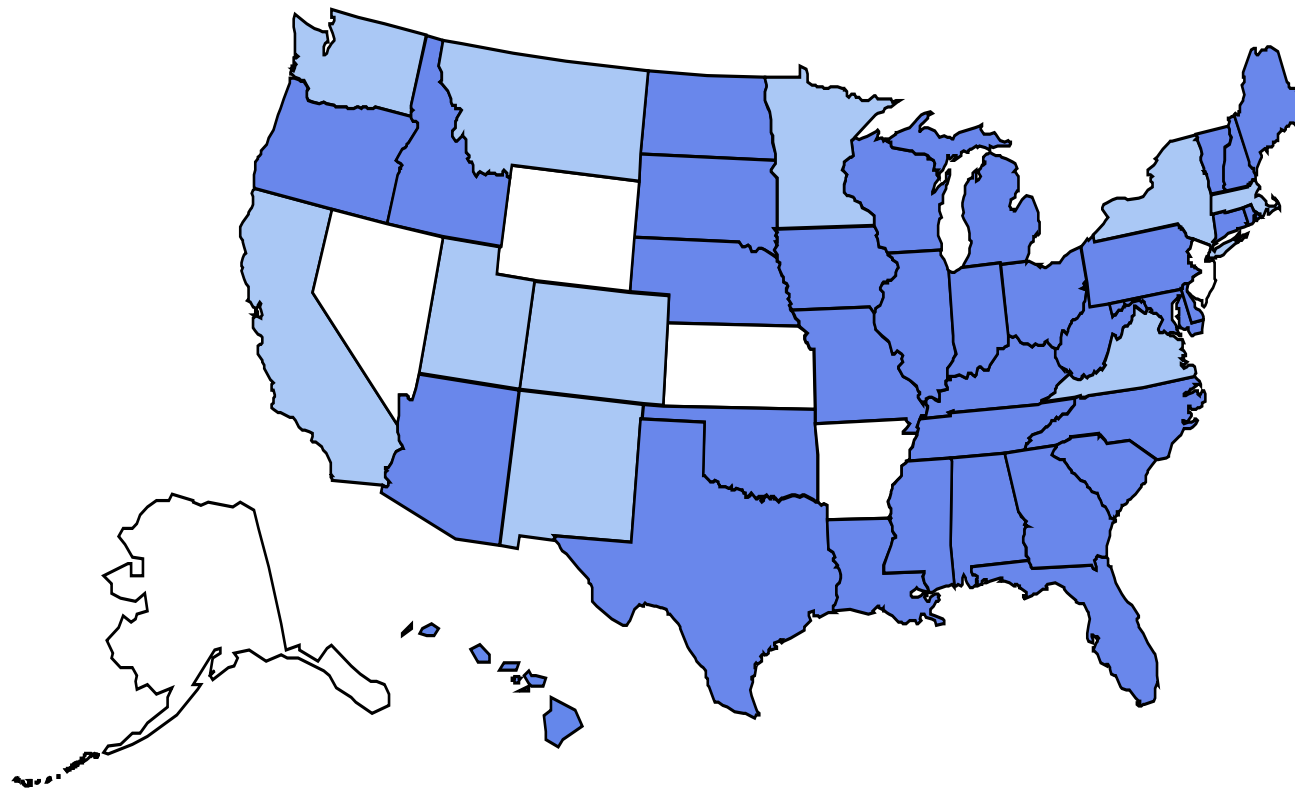


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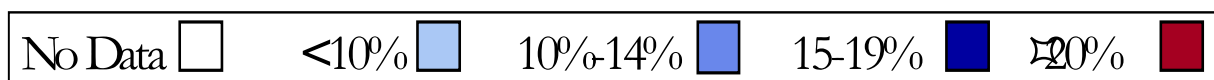
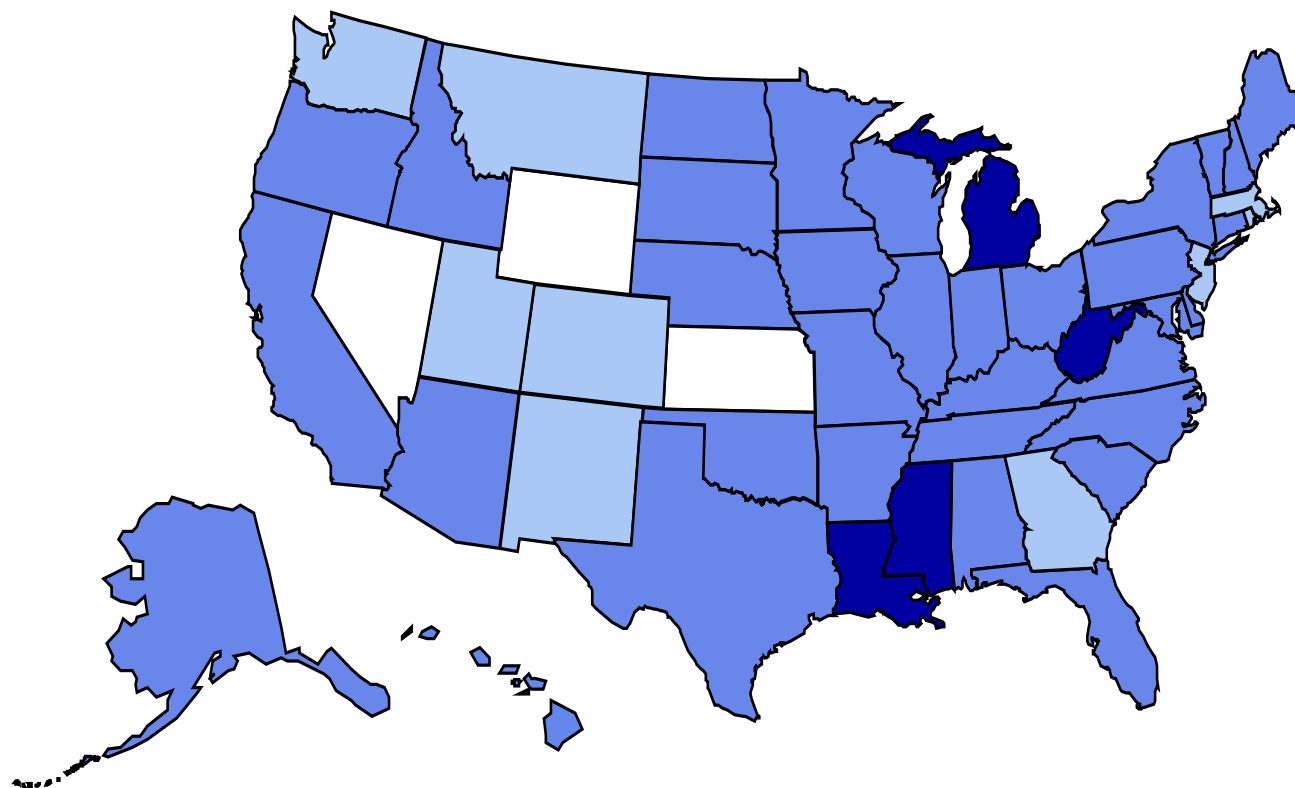


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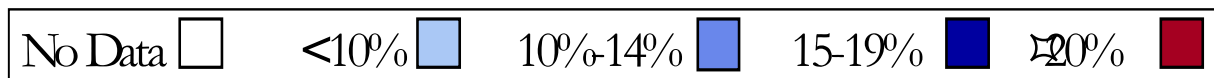
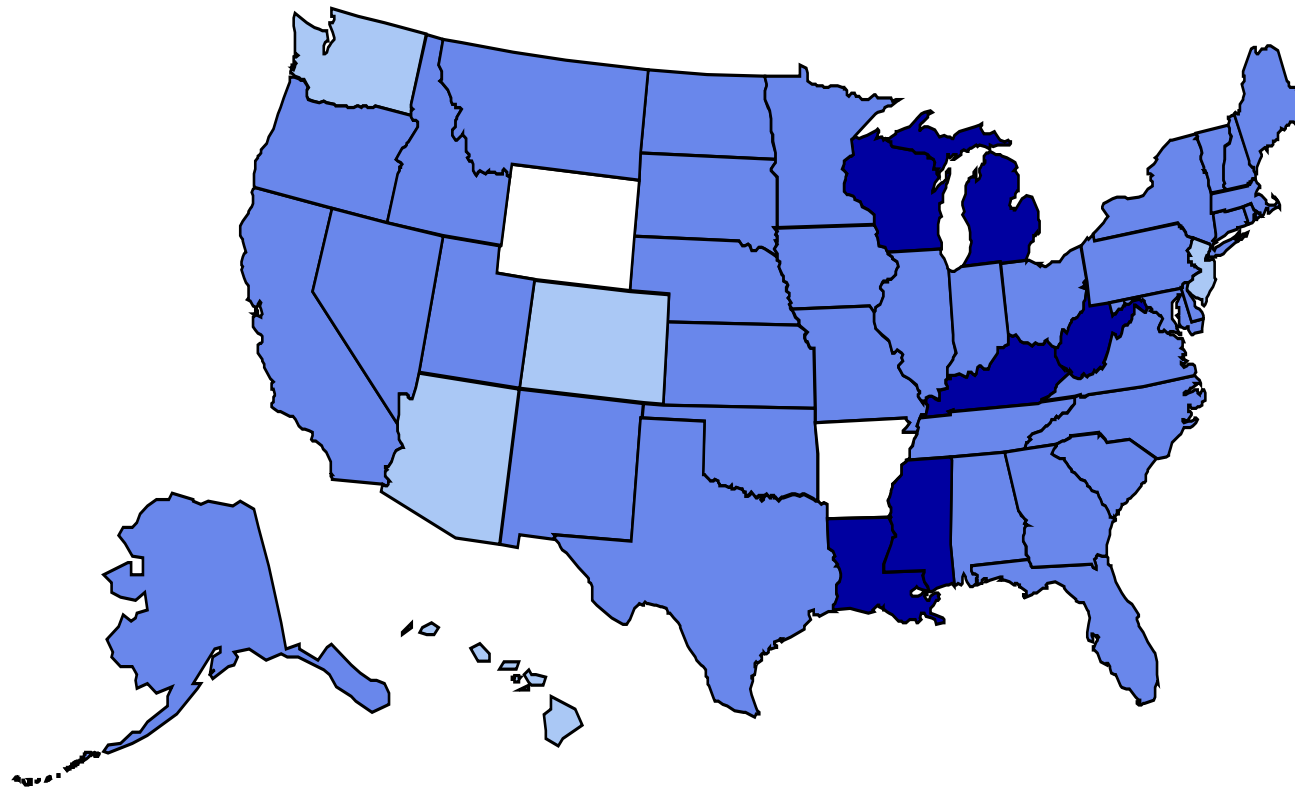


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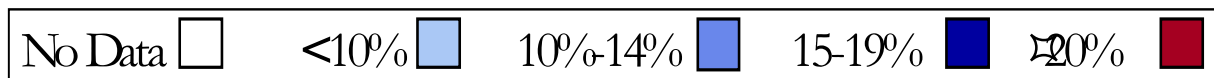
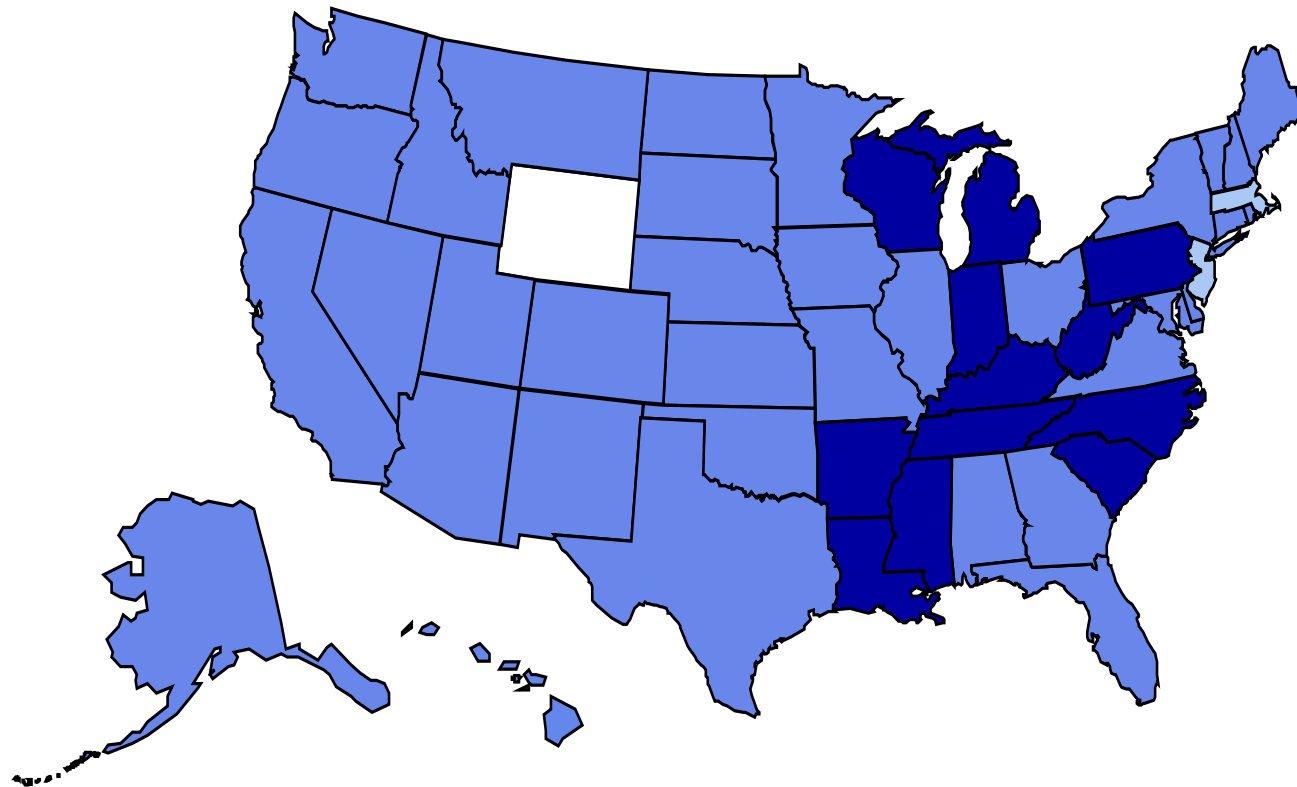


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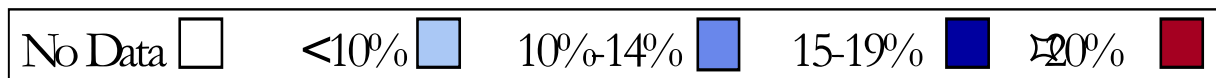
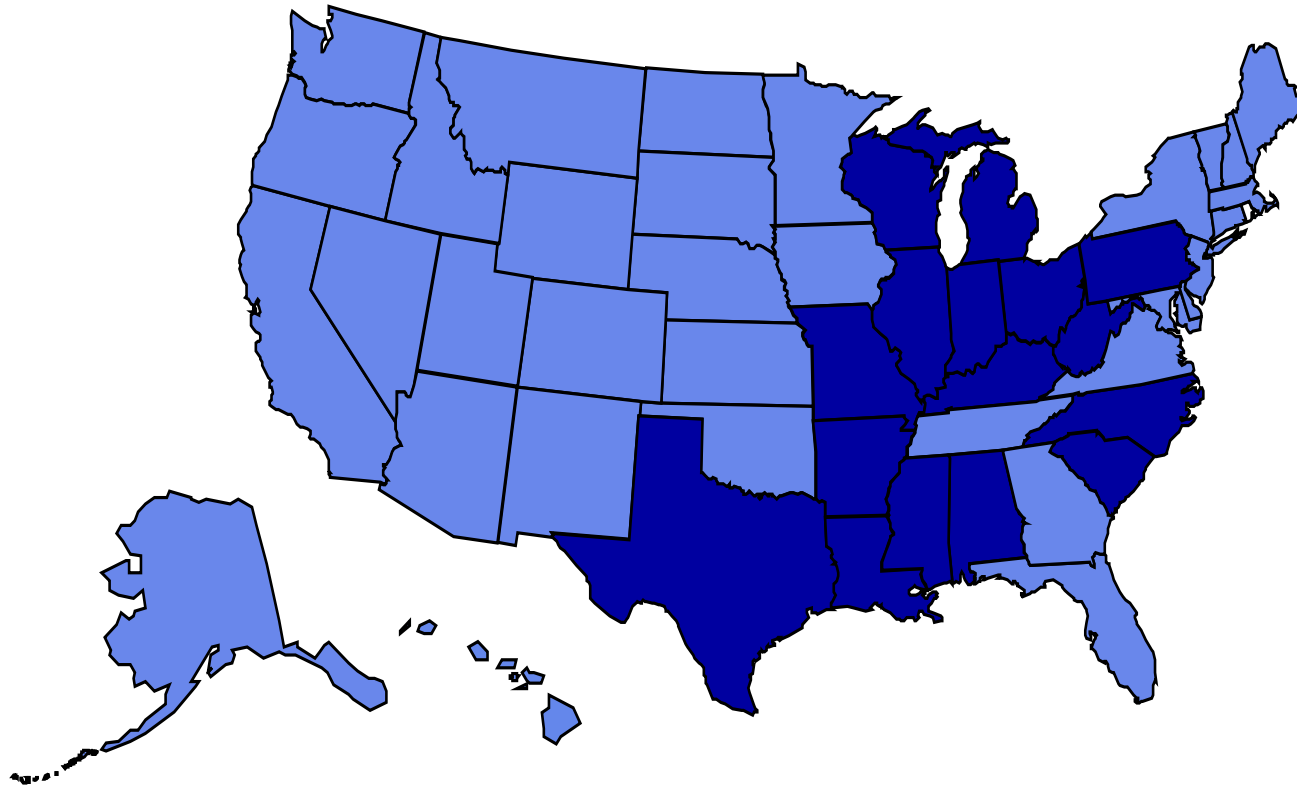
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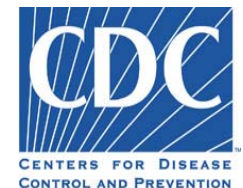
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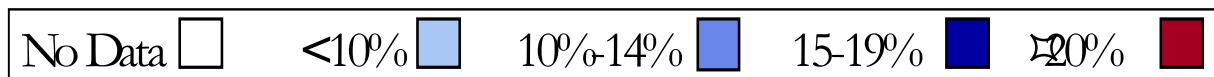
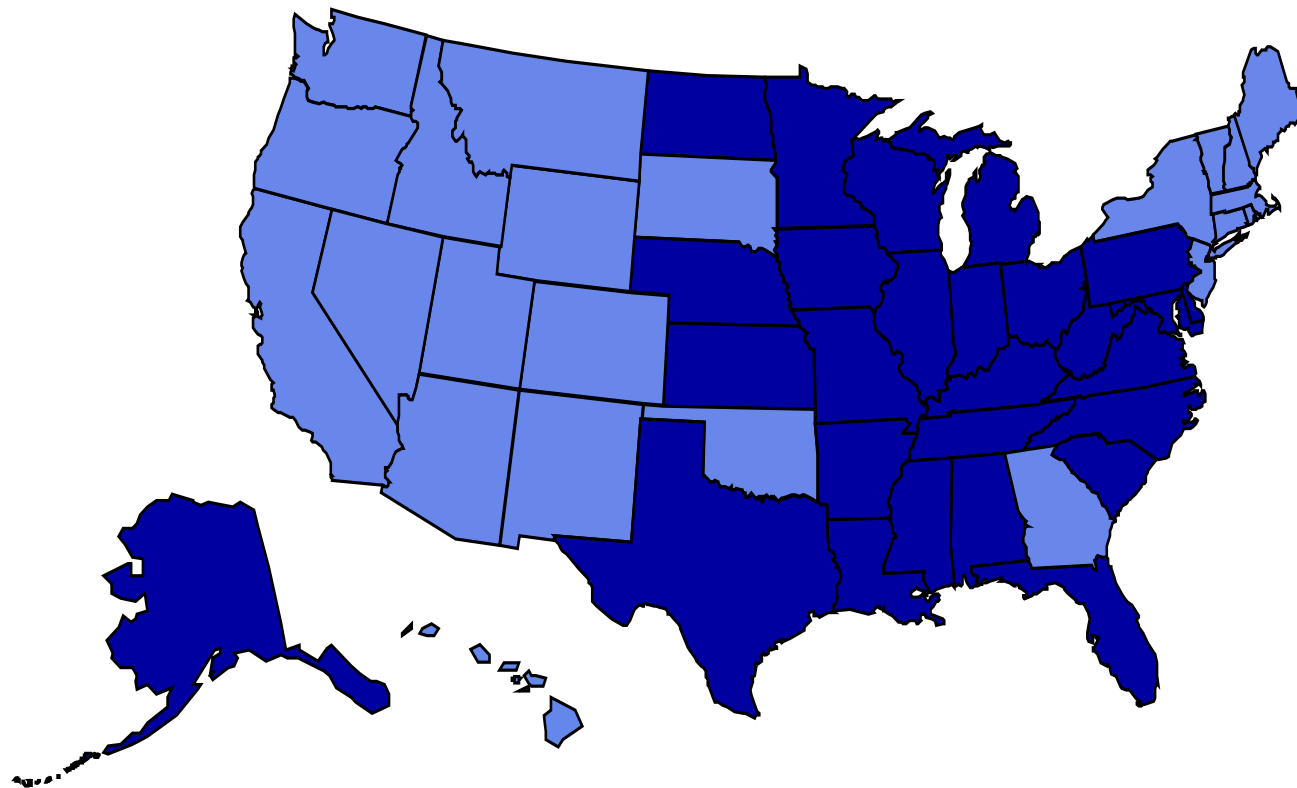
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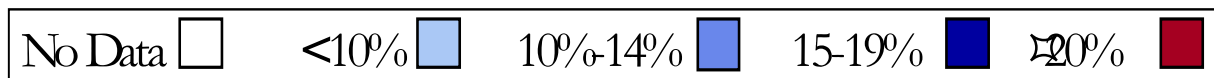
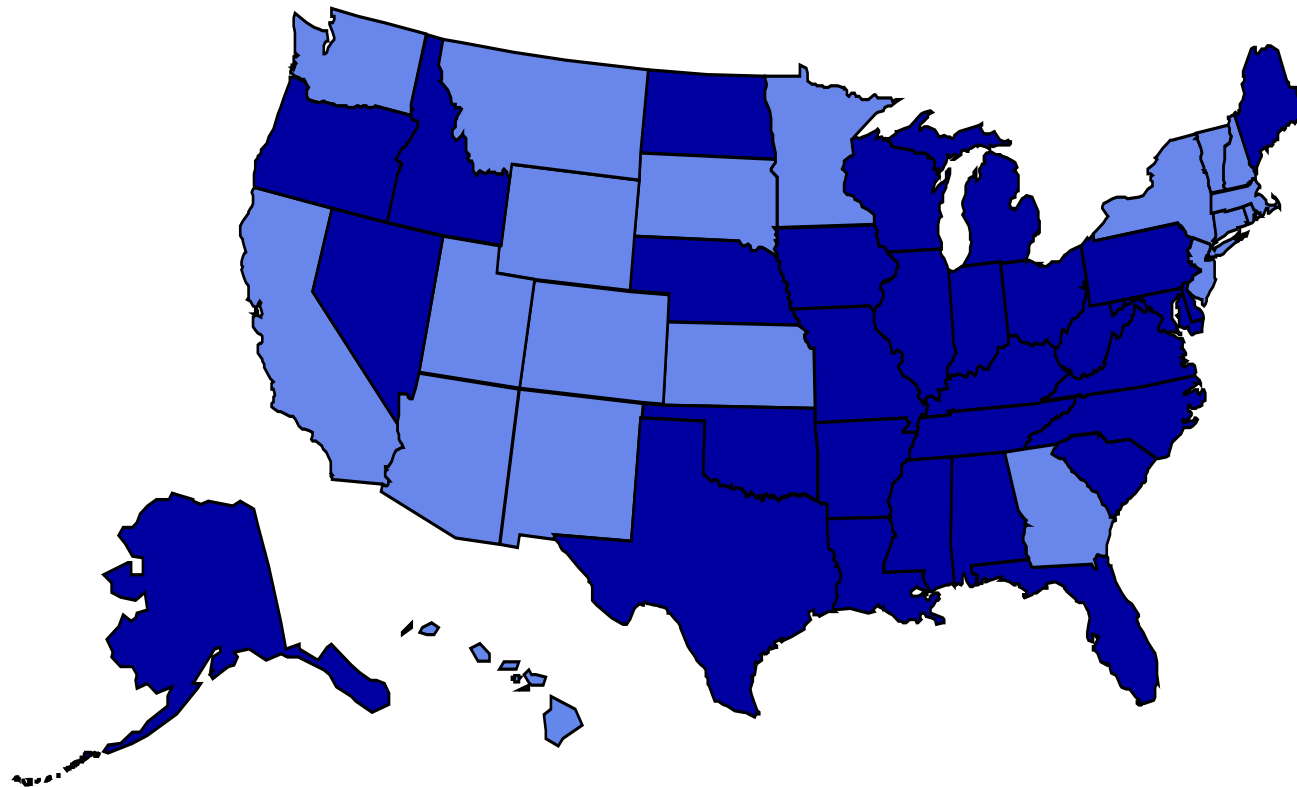


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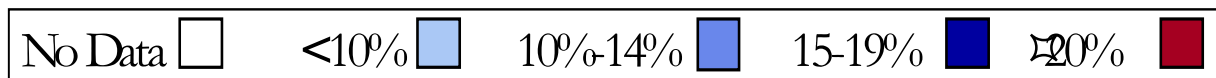
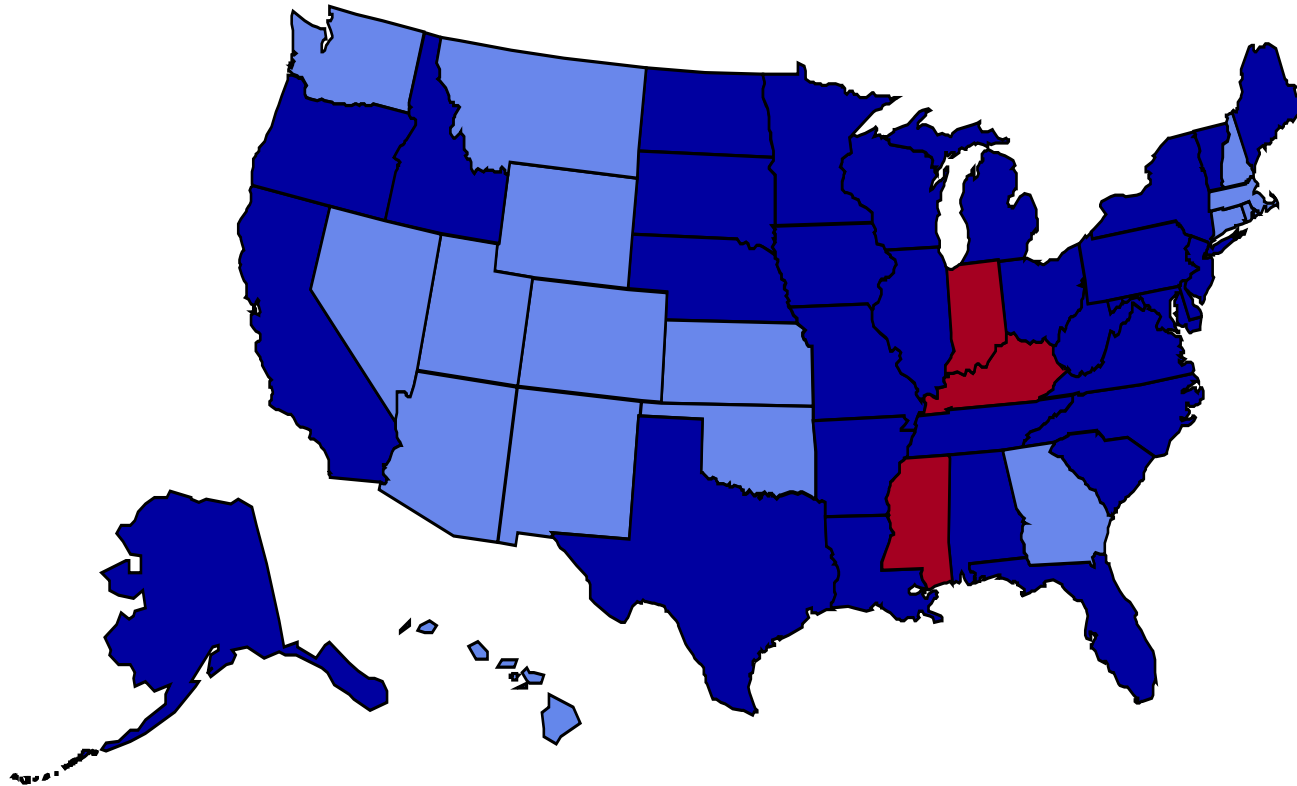
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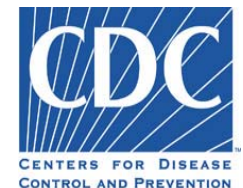
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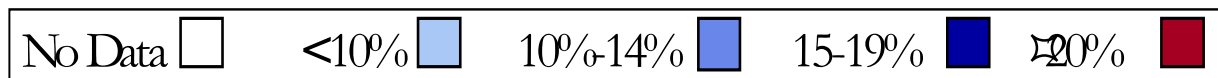
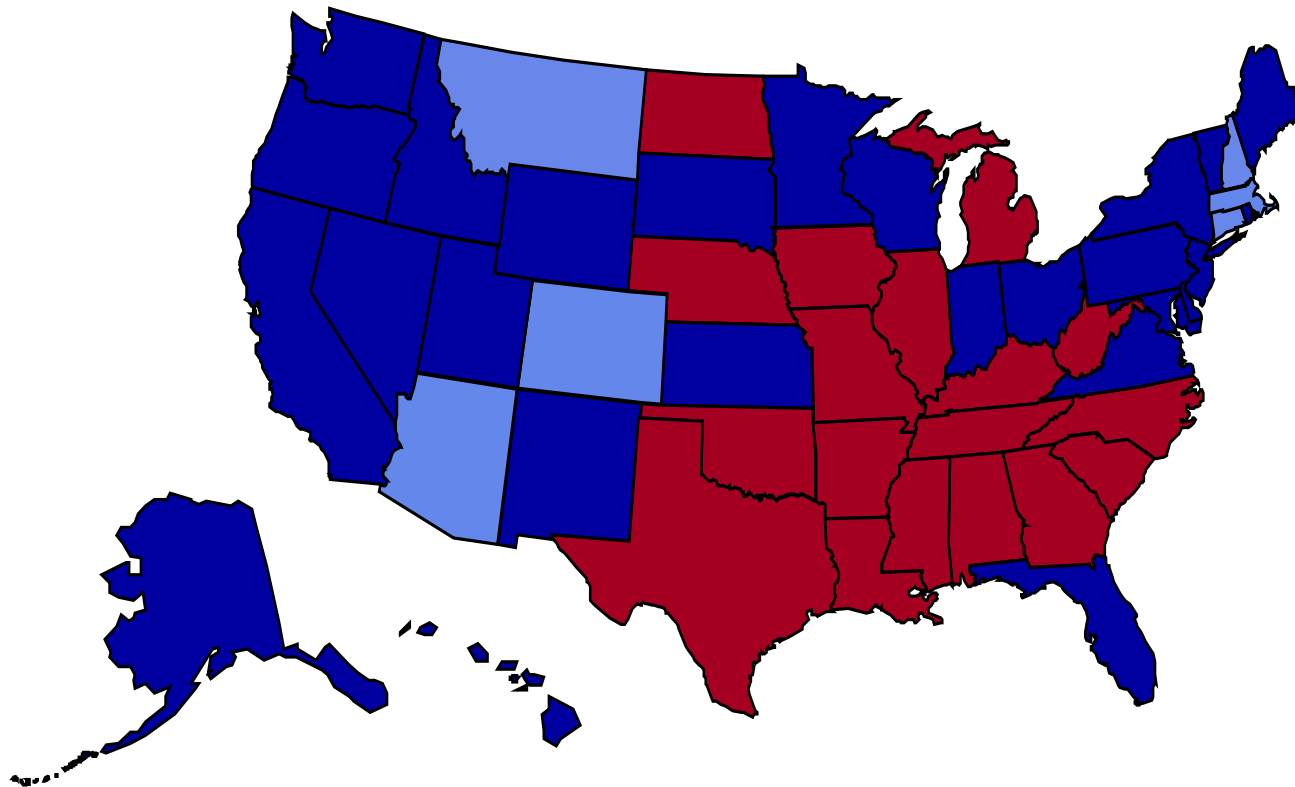
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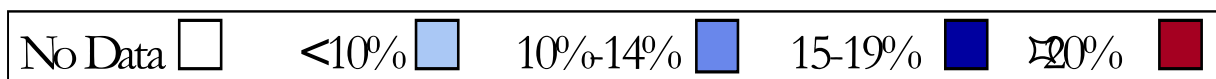
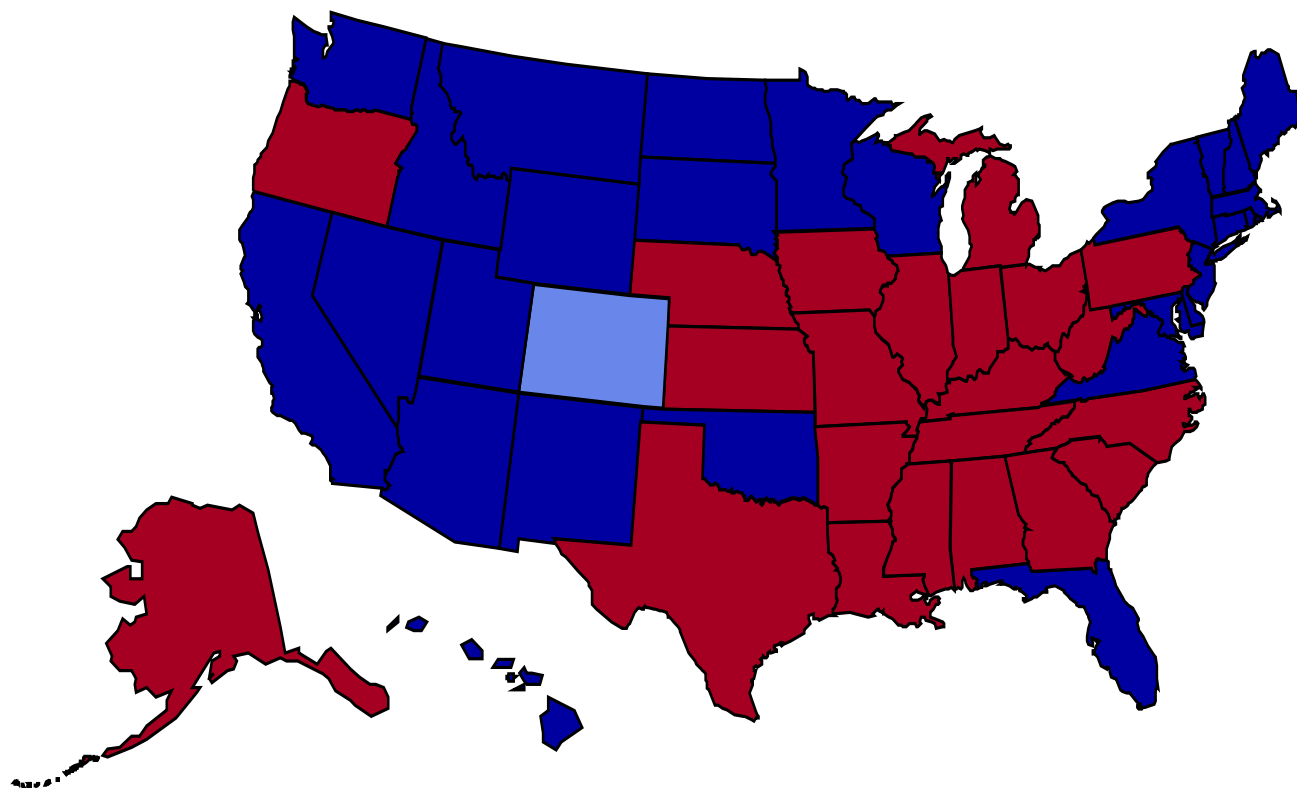
Source: Mokdad A H, et al. *J Am Med Assoc* 2000;284:13



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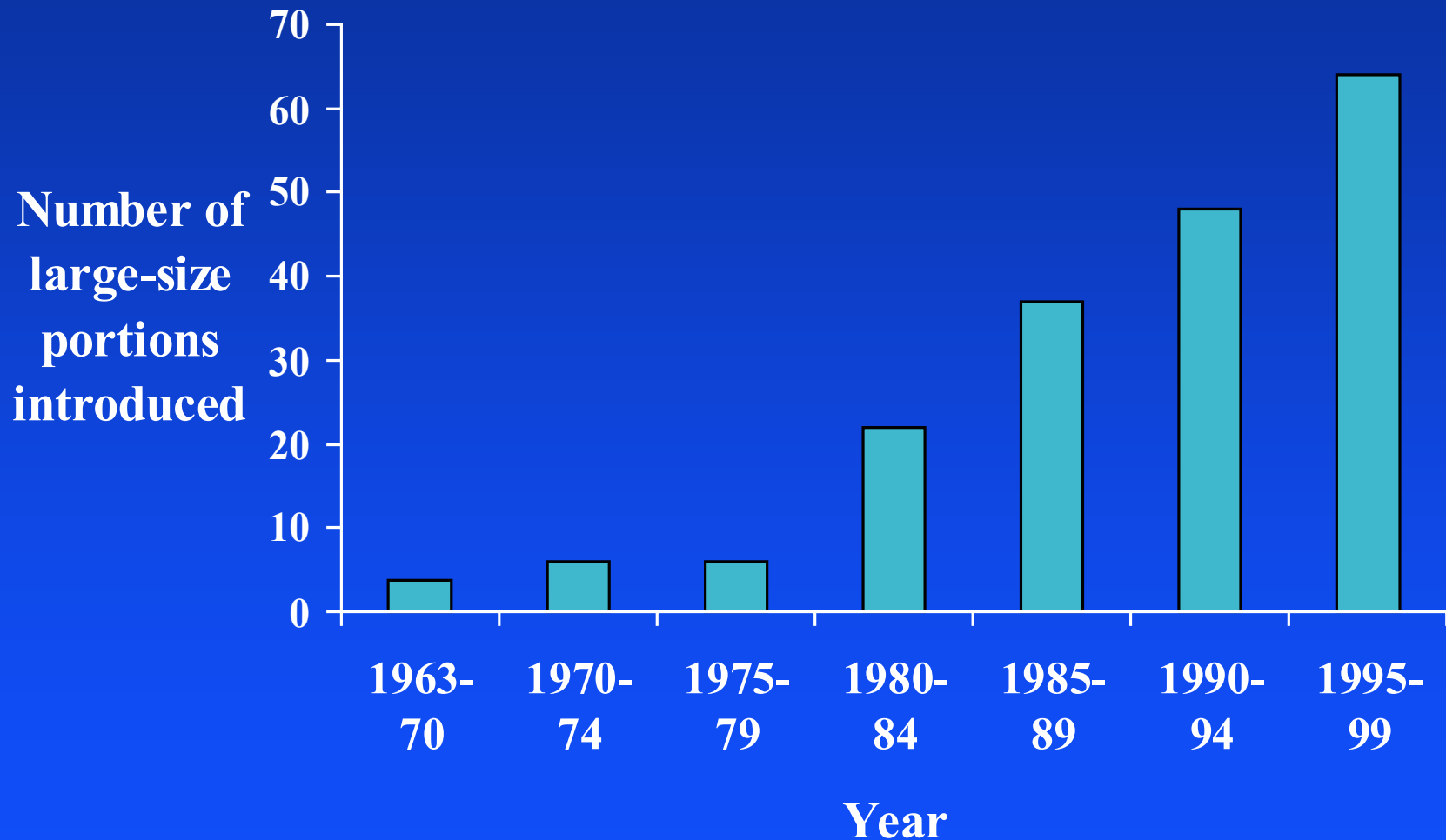
BRFSS, 2000

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5'4" woman)



Source: Mokdad A H, et al. *J Am Med Assoc* 2001;286:10

Introduction of new, larger portions, 1970-1999 *



* from Young LR, Nestle M. Am J Public Health 2002;92:246-249.

Diminished Exercise and Fitness

- Video games
- Internet
- Television
- Decrease in aerobic activity in Physical Education
- Increased powered transportation
 - ◆ Urban design

Diet in Children and Adolescents*

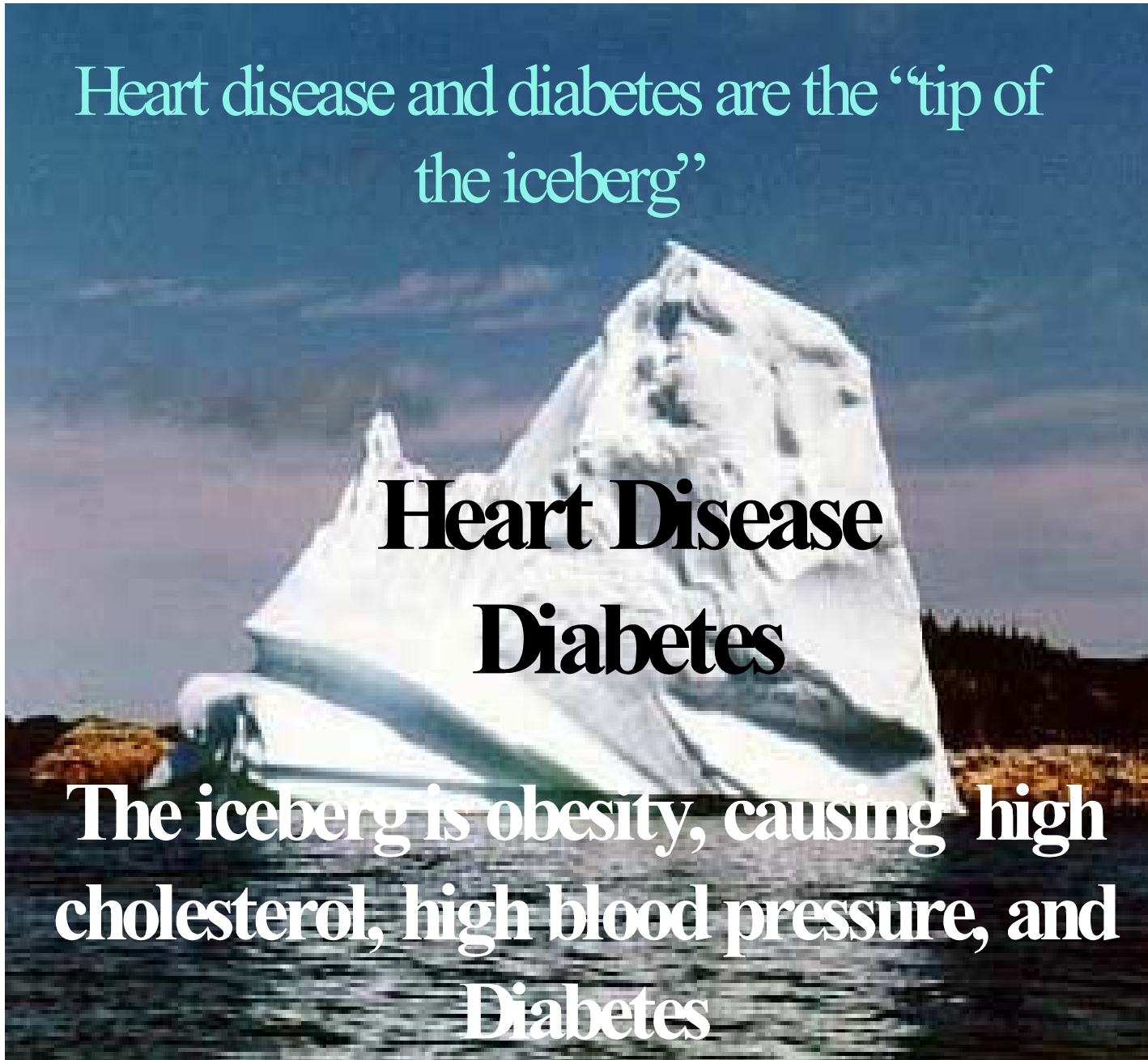
<u>Recommendation</u>	<u>% Meeting Requirement</u>
Fat (<30%)	36%
Saturated fat (<10% of calories)	32%
Fruits and Veg (5+ servings/day)	18%

*age 6-17, from the CDC 1994-96

Heart disease and diabetes are the “tip of the iceberg”

Heart Disease Diabetes

The iceberg is obesity, causing high cholesterol, high blood pressure, and Diabetes



Results of “Overnutrition”:

■ The “Metabolic Syndrome”

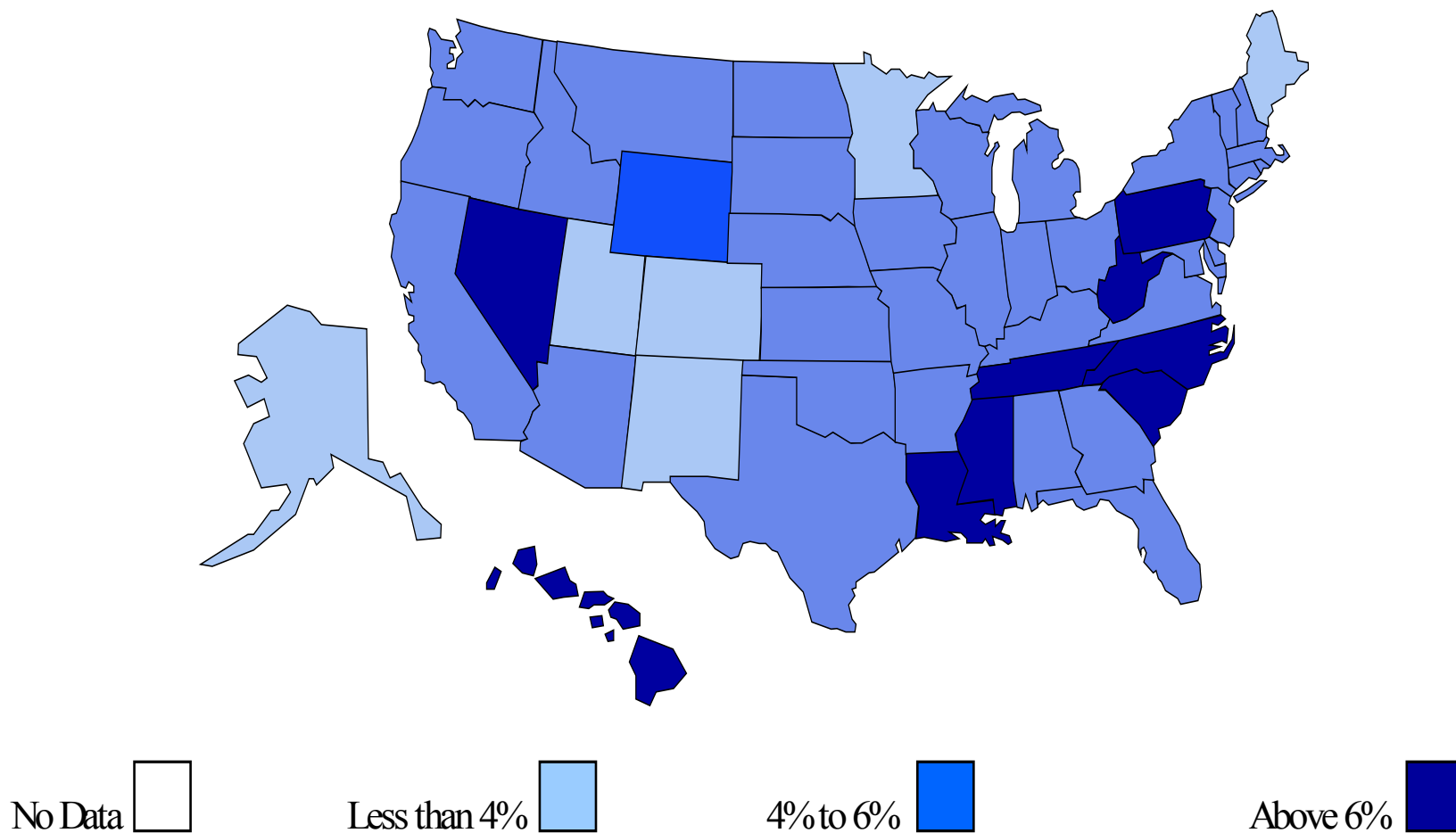
- ◆ elevated triglycerides
- ◆ increase waist size (abdominal obesity)
- ◆ elevated LDL (bad) cholesterol
- ◆ borderline or elevated blood pressure
- ◆ borderline blood sugar ($>90\text{mg}\%$ v. $>115\text{mg}\%$)

■ 47,000,000 adults in the USA (892,000 in Wisconsin)

Metabolic Syndrome Results:

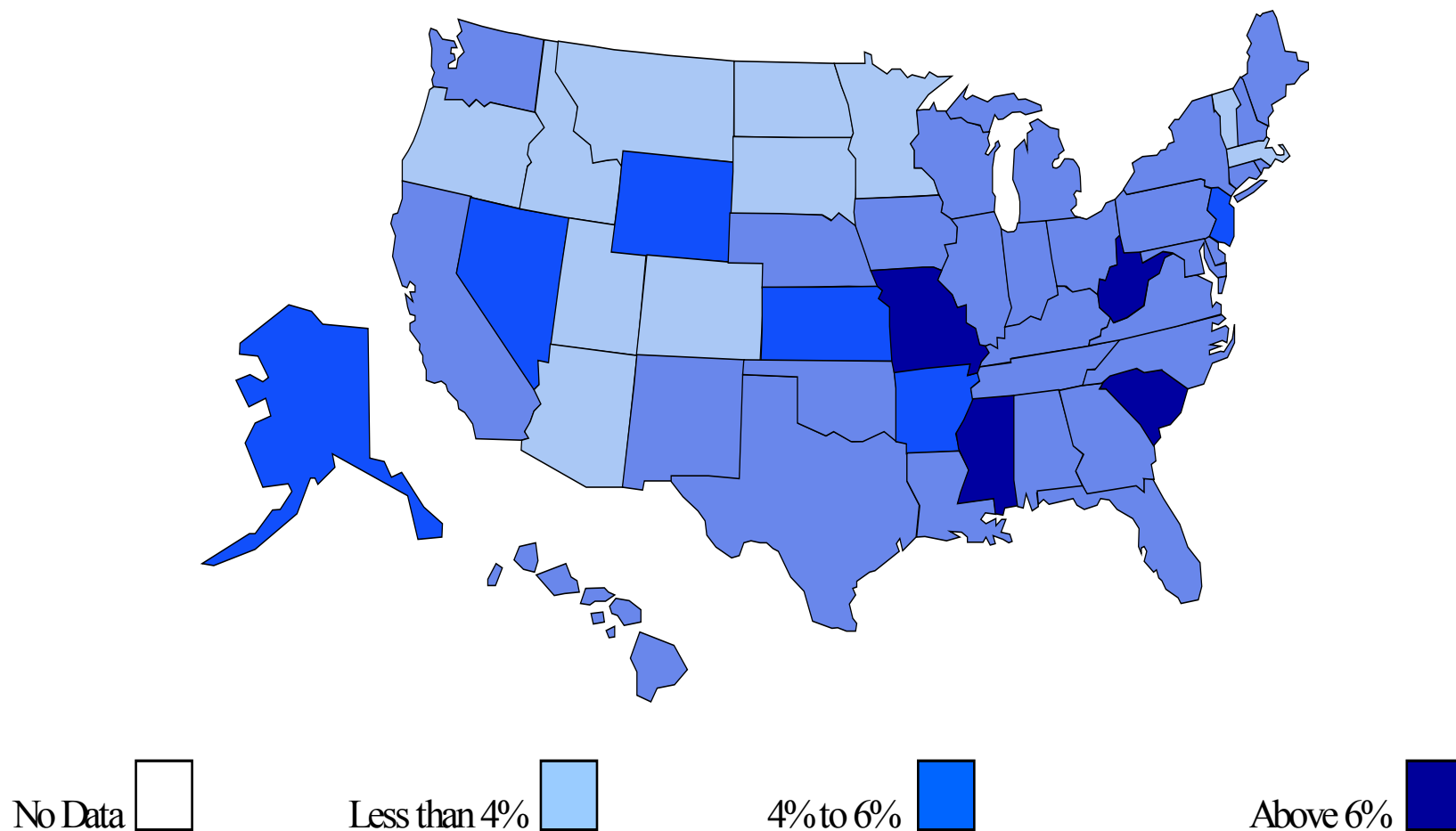
- Half will progress to adult type diabetes(6-10%/year)
 - Type II Diabetes is the*/a major cause of
 - Amputations*
 - kidney failure*
 - stroke
 - Blindness
 - heart disease
- A majority of the heart disease

Diabetes and Gestational Diabetes Trends Among Adults in the U.S., BRFSS 1991-92



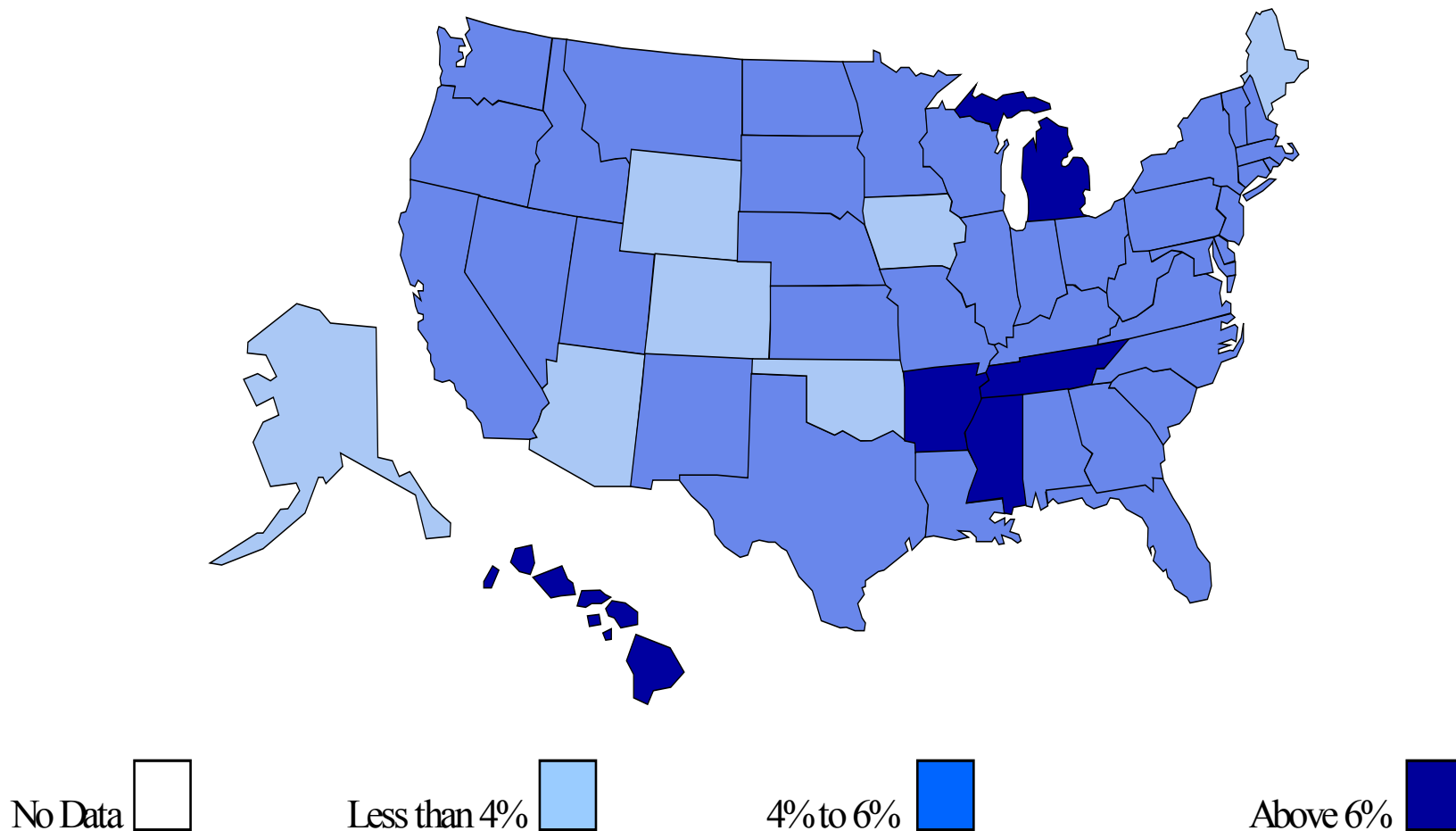
Source: Mokdad et al., *Diabetes Care* 2000;23:1278-83.

Diabetes and Gestational Diabetes Trends Among Adults in the U.S., BRFSS 1990



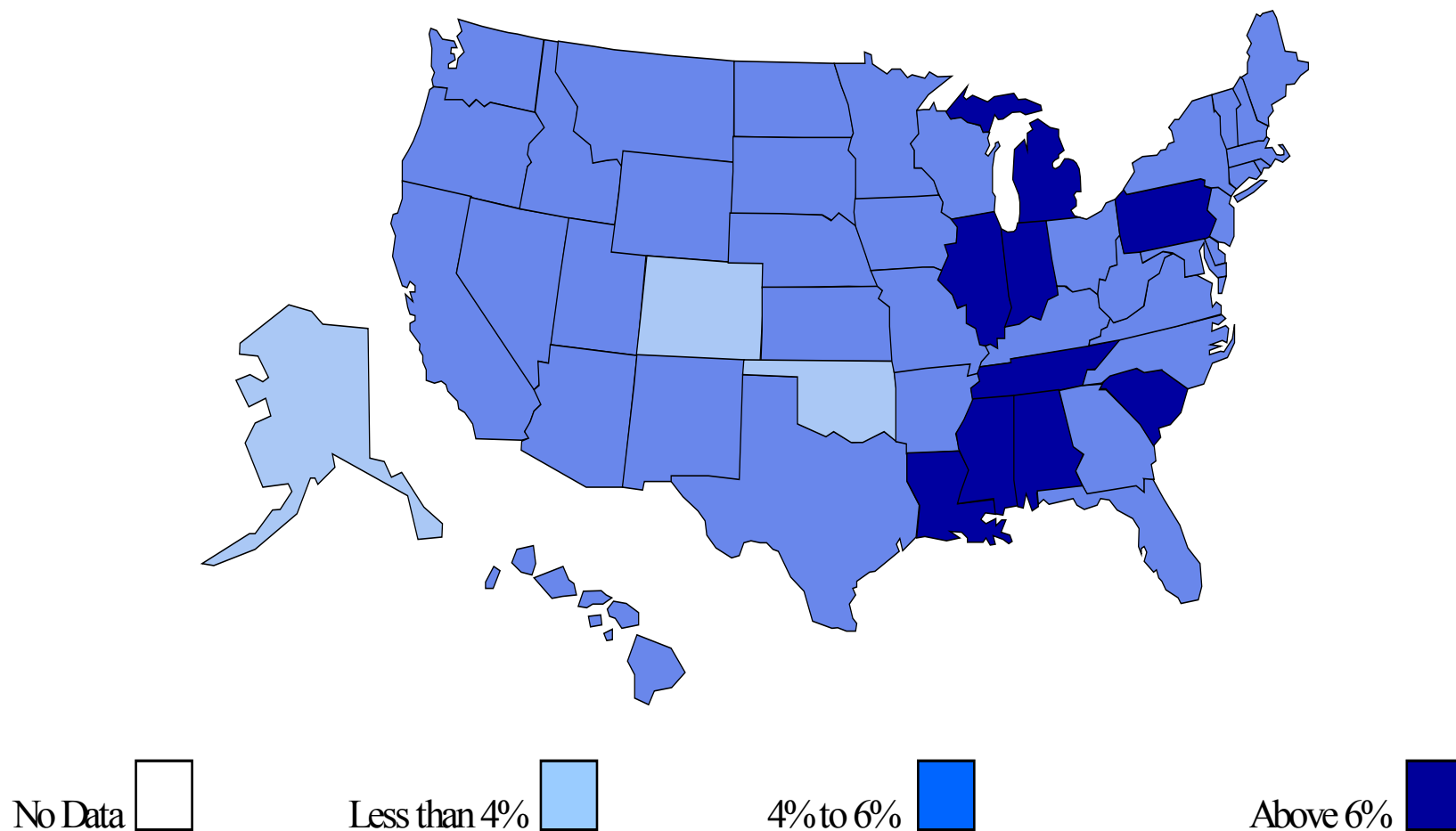
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Diabetes and Gestational Diabetes Trends Among Adults in the U.S., BRFSS 1993-94



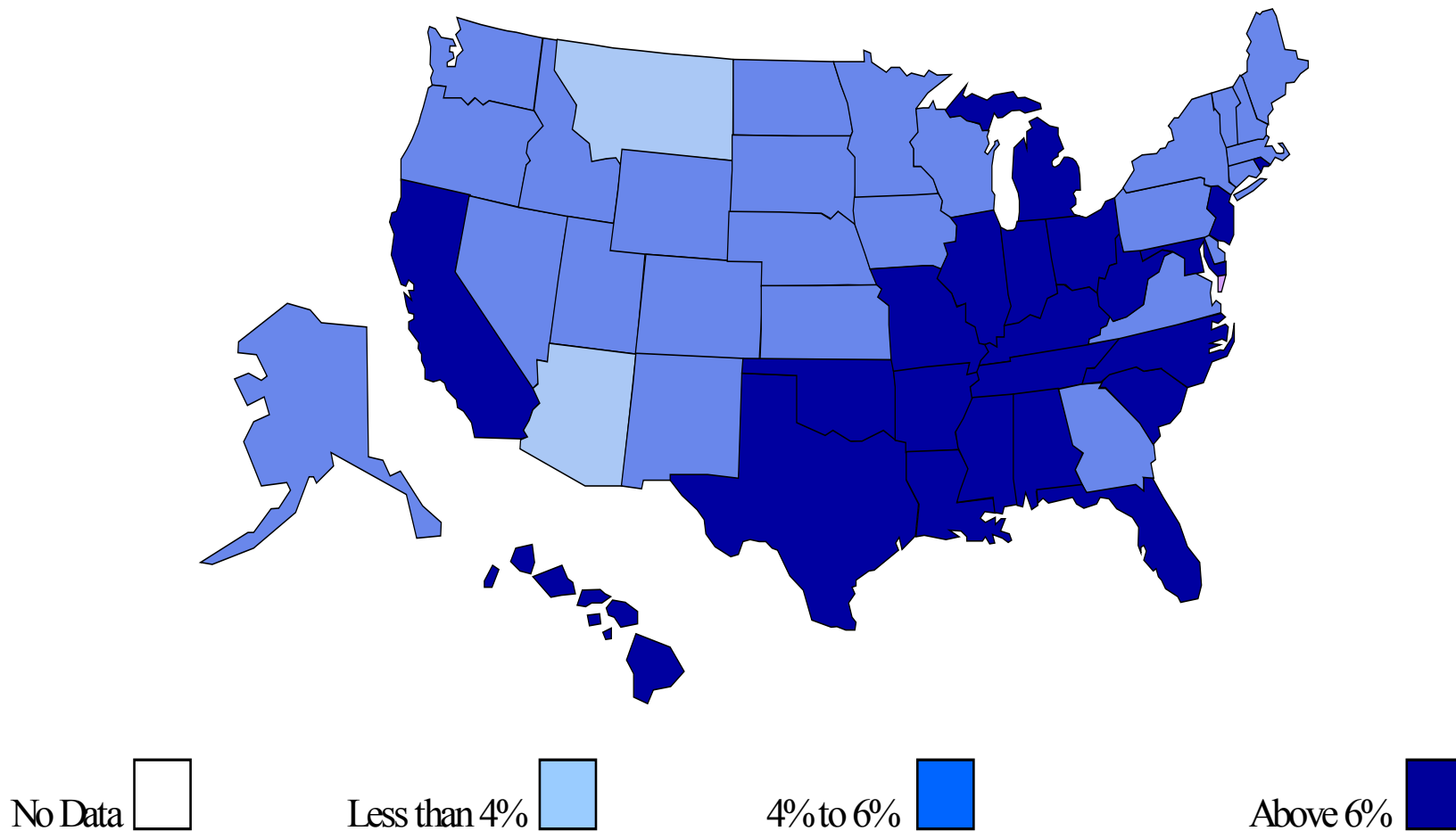
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Diabetes and Gestational Diabetes Trends Among Adults in the U.S., BRFSS 1995-96



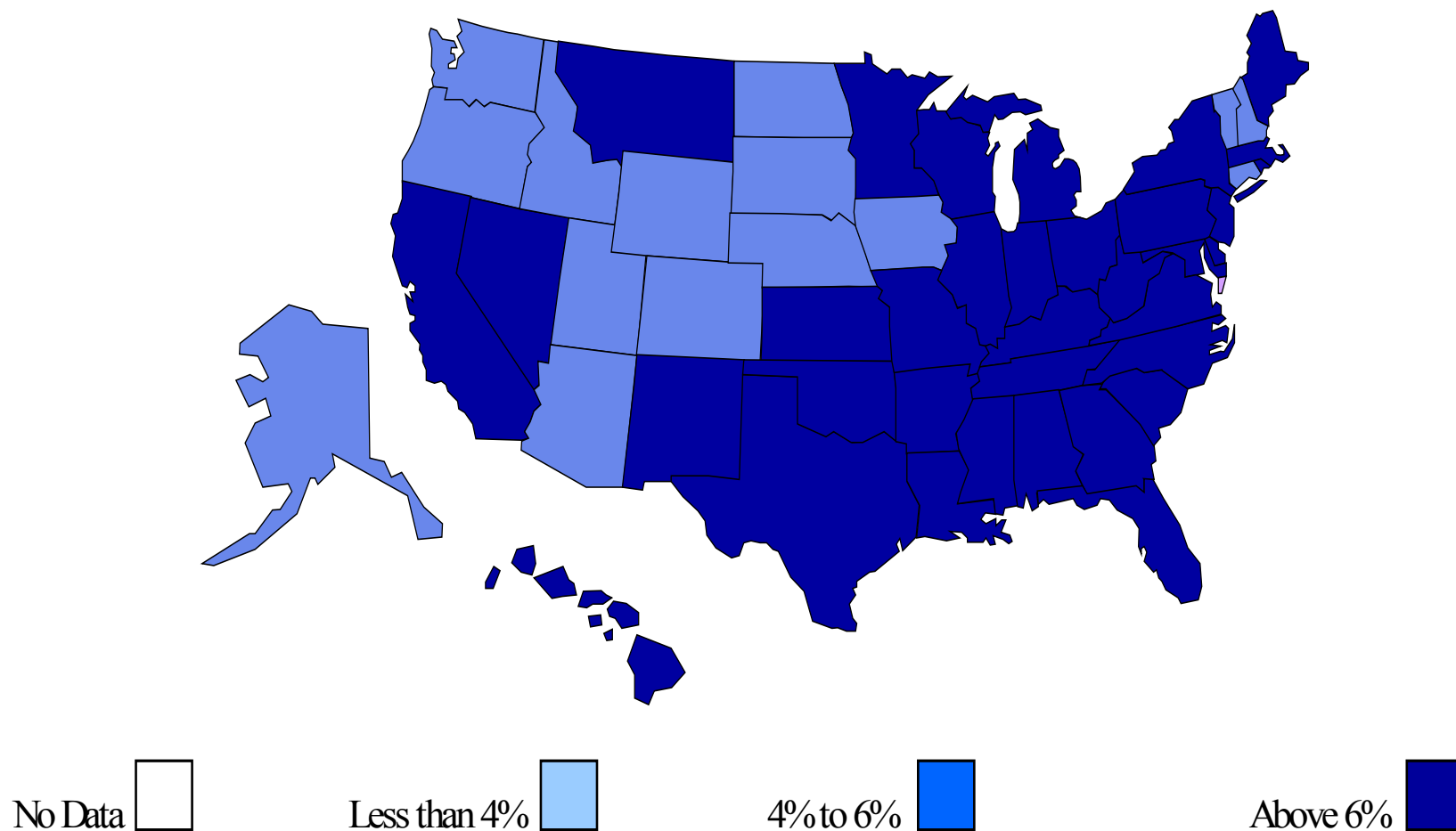
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Diabetes and Gestational Diabetes Trends Among Adults in the U.S., BRFSS 1997-98



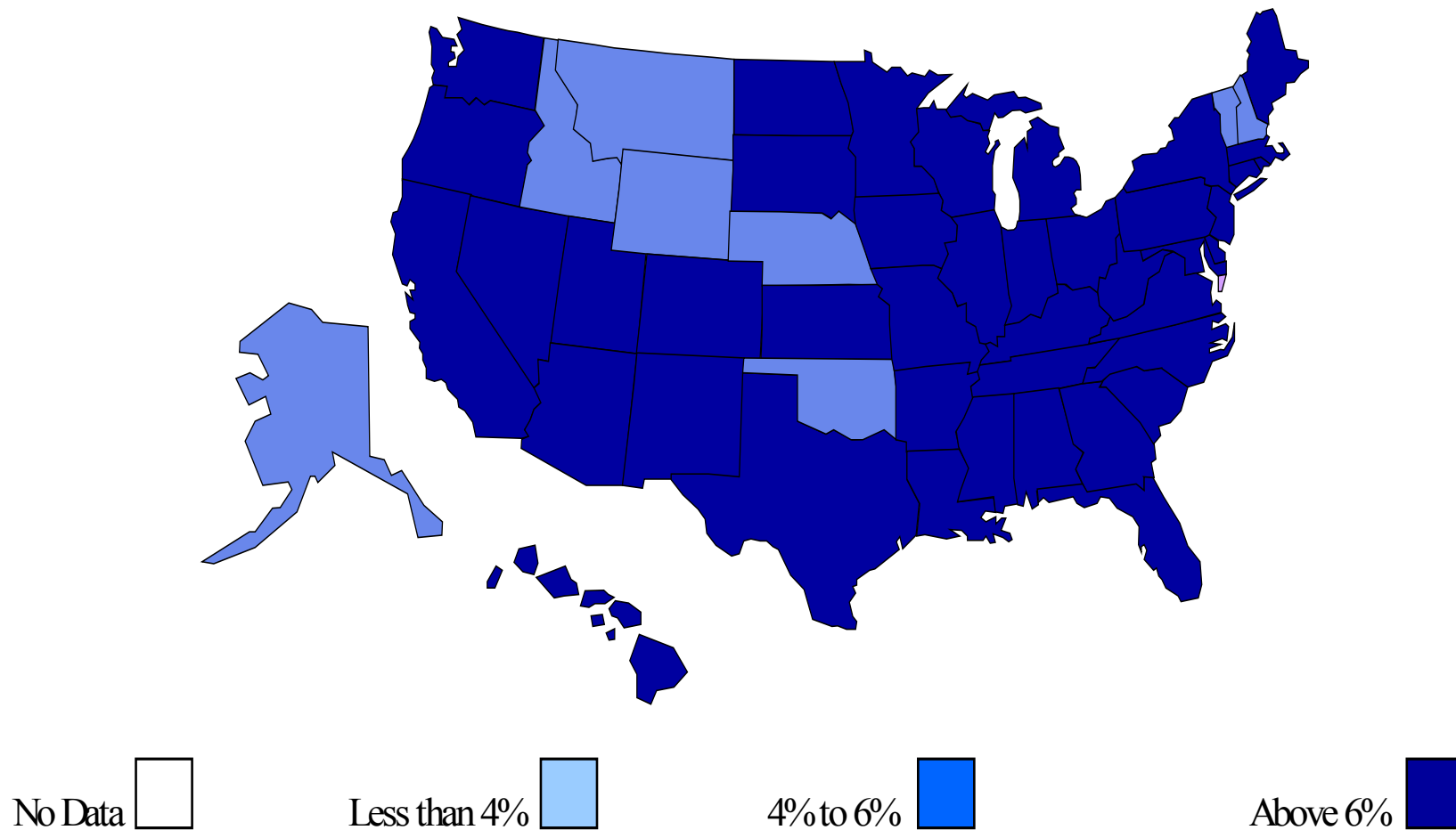
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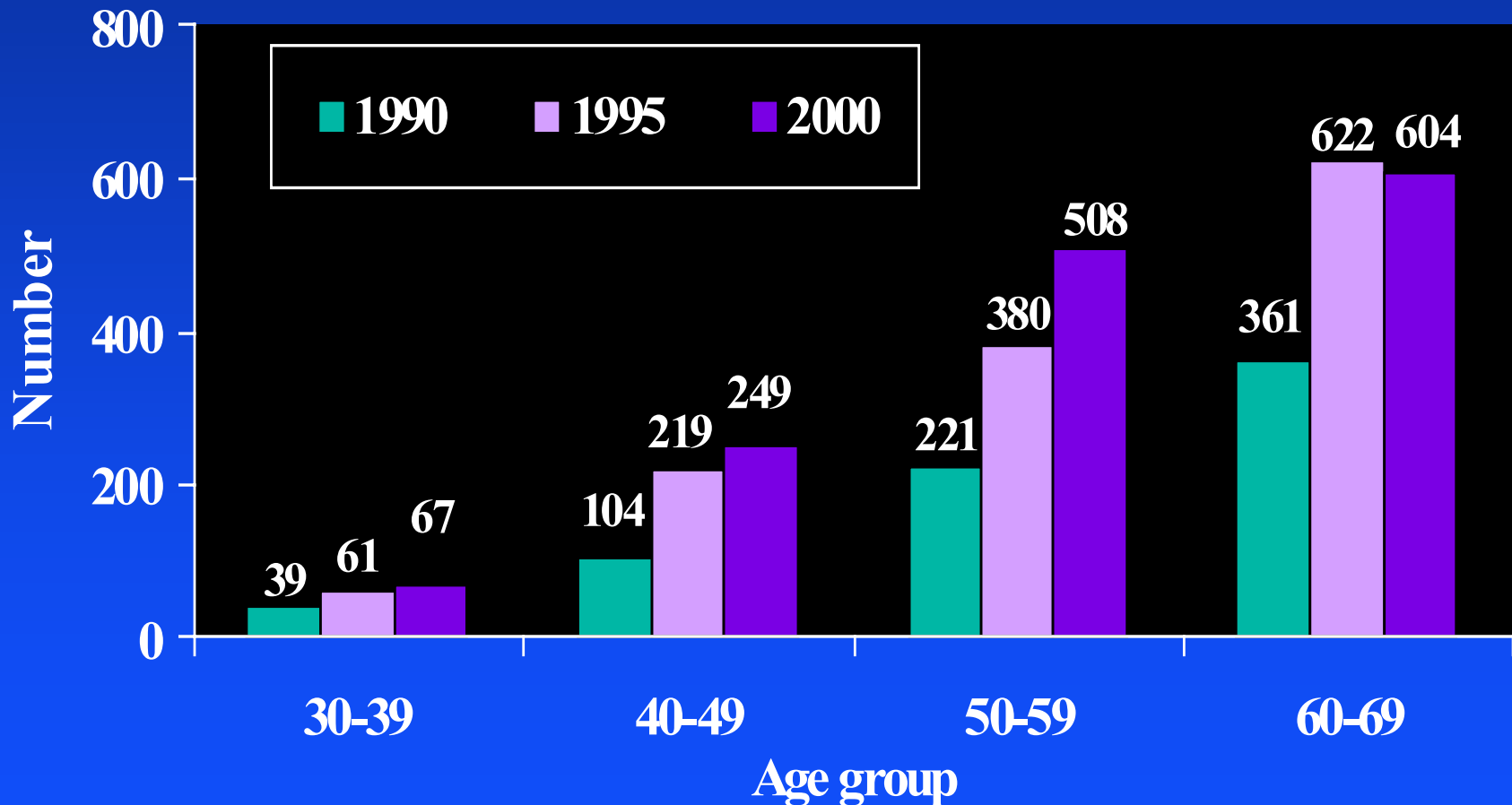
Source: Mokdad et al., *Diabetes Care* 2001;24:412.

Diabetes and Gestational Diabetes Trends Among Adults in the U.S., BRFSS 2000



Source: Mokdad et al., *J Am Med Assoc* 2001;286(10).

Cardiac Catherizations at the Marshfield Clinic (1990-2000) Charles McCauley, MD



Obesity at the Marshfield Clinic

- Obesity is the initiating event leading to the Metabolic Syndrome
- 9 of the top 10 diagnoses made involve the Metabolic Syndrome
- 15 of the top 30 diagnoses have a statistically significant link to Obesity
- Metabolic Syndrome affects 41,000 or 11% of the Clinic's Population

Where can we have impact?

Where do premature deaths come from?

- Genetic issues 30%
- Social problems 15%
- Environmental factors 5%
- Medical Care issues 10%
- Behavioral issues 40%

McGinnis, JM et al Health Affairs 21:78-93,2002

What must we do based on what we know?

- Smoking behavior has changed dramatically from peak levels- Overall declining from 41.9% (of the over 18 y/o population) to 23.3%
- Physician counseling helped 1-2%, the rest came from multi-pronged societal efforts

What must we do based on what we know?

- We know as little as a 7% weight loss (via diet & exercise change) in patients at risk will reduce the progression to Diabetes at four years by 58%.*
- This translates to a savings of 2.244 billions/year in Diabetes care alone

*Tuomilehto in NEJM 344:1343-1350, 2001 &
U.S. Diabetes Prevention Program Research Group in NEJM 346:393-403, 2002

The Marshfield Clinic's Commitment to the Coalition

- Funding to the Center for Community Outreach to Organize/Stimulate the Coalition formation (spring 2002)
- Annual Community Symposium on Healthy Lifestyles (First 5/30/2002)
- Commitment of Physician and Researcher time to support Community Coalition (fall /winter 2001-2002)
- Internal Initiative to serve as Model (spring/summer 2002)

The Healthy Lifestyles Internal Advisory Group Formulates the Core Message

- Promote energy balance in order to sustain stable weight for those with normal BMI
- Promote appropriate portion sizes for energy expenditure needs
- Promote appropriate food group choices
- Promote activity 30 minutes most days of the week

The Community Process:

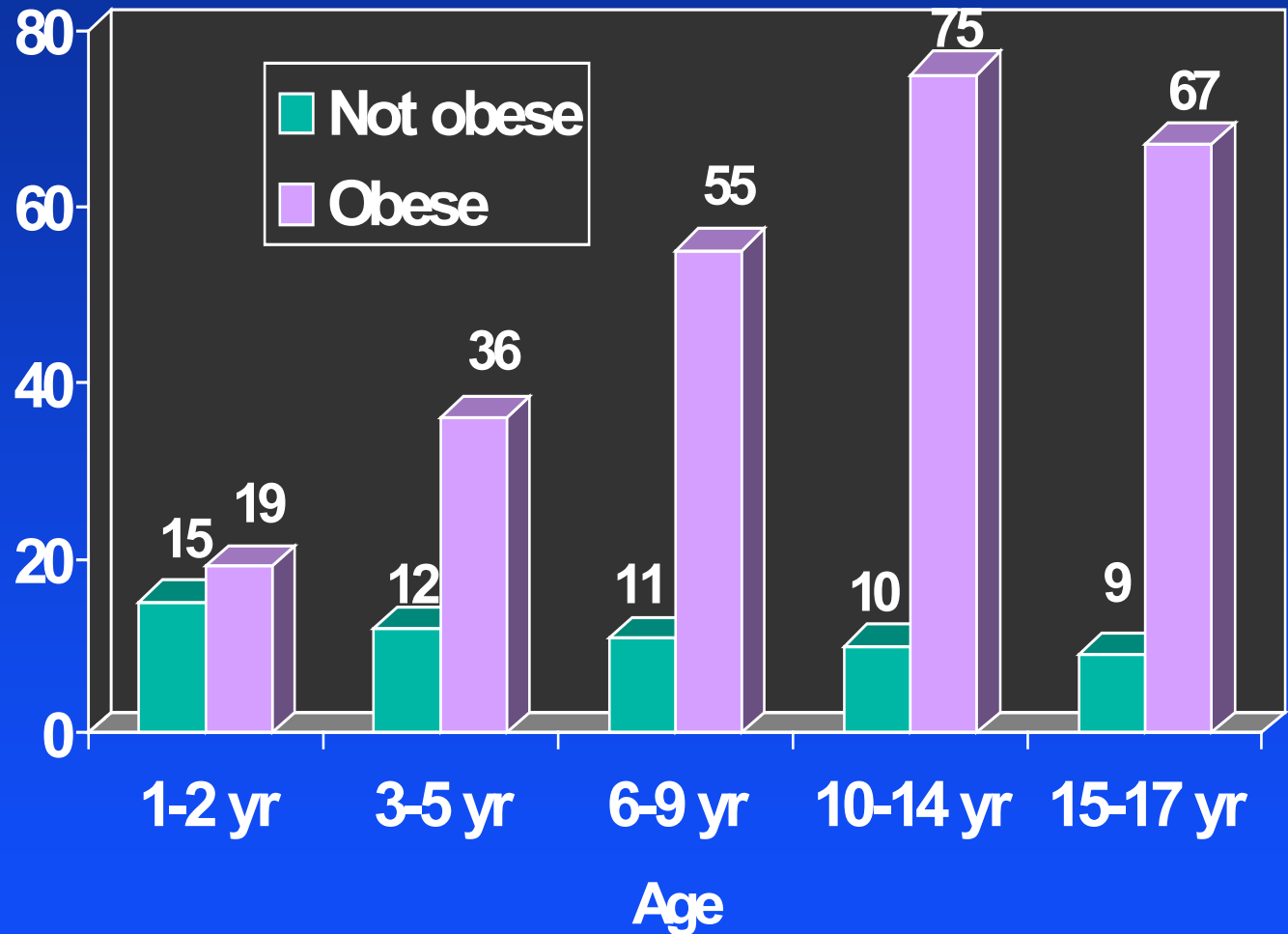
- Education of Community Leaders through individualized presentations to Schools, City government, Civic organizations, Businesses (winter /spring 2002)
- All day Community Symposium for 125 Community Leaders May 30, 2002
- First Community Coalition Meeting 6/24/2002 with 72 volunteers at UW-Marshfield

Community Coalition Process: (cont.)

- Coalition meeting forms an Ad Hoc Steering Committee to determine governance and nominate an Executive Committee (summer 2002)
- Coalition forms four major subcommittees- Community(includes city gov't.), Education, Medical, Business & Industry (summer 2002)
- Subcommittees adopt action plans and outcomes driven agendas (summer 2002)
- Initial Action Plan reports scheduled for second major Coalition meeting 9/24/2002

Childhood obesity predicts adult obesity*

Percent obese
as young
adult (at age
21 to 29 yrs)



* From Whitaker RC, et al. NEJM 1997;337:869-73

Obese Children

- 25% of obese children have impaired glucose tolerance
 - ◆ Pre-diabetic
- 4% of obese adolescents are diabetic and undiagnosed

The Coalition's First Major Leader: Marshfield School System

- Dave Smette, system administrator embraces need and leads way for Schools: (winter 2002)
- Key School System members hear presentations from Clinic (winter 2002)
- Curriculum redesign for Health and Physical Education (winter 2002 to summer 2002)
- Food service redesigns menus, vending contracts, extra-curricular event foods (winter 2002 to summer 2002)
- Application for CESA grant on children's fitness

The Coalition's Broad Targets

- The Coalition's committees will collaborate to devise community wide interventions
- The Community Sector representatives will help their respective parent organizations devise internal interventions
- The Clinic via its Center for Community Outreach will provide technical expertise for the interventions and help with outcome measurement and design.

We will track broad outcomes via MESA database

- BMI values
- New Cases of type II Diabetes Mellitus
- Cholesterol levels
- % of the Target population with abnormal fasting blood sugars

Thank You